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ABSTRACT

"Accountability" is a classical term in management theory, but new in education. It is the product of the process of performance contracting, in which a public authority grants money to a local educational agency to contract with private enterprise to achieve specific goals within a specific period for specific costs. This process can be engineered as follows: (1) the local educational agency employs a management support group (MSG); (2) the MSG works with other groups to produce a set of general specifications called a Request for Proposal (RFP); (3) the RFP is the subject of a pre-bidding conference; (4) the revised RFP is issued and actual bids are entertained; (5) the local school board selects the best bid and negotiates a performance contract with the aid of the MSG; (6) the local education agency employs an Independent Educational Accomplishment Audit team (IEAA) to monitor execution of the performance contract and to certify results for purposes of payment. The Texarkana Dropout Prevention Program under ESEA Title VIII was the first to use performance contracting in education and it stimulated numerous inquiries and proposals from other cities. This new approach requires increased flexibility in funding, which could be achieved by greater local control. (RT)

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ENGINEERING ACCOUNTABILITY FOR RESULTS INTO PUBLIC EDUCATION

By
Leon Lessinger*

An important change has come into what Americans expect of their public schools. The optimism about the value of education is still there and contimues strong but serious doubts have arisen about the public school system's ability to actually deliver on its promises.

The shift in attitude becomes apparent by analyzing the questions being asked at hearings by elected officials of both parties at every level of government from the Congress to state legislatures and local city councils. The same line of questioning can be heard among businessmen, at school board conventions, at various citizen group meetings and in the highest circles of the executive branches of government. Seekers of educational funds have always talked in terms of books, staff, materials, equipment and space to be acquired or used together with students to be served and programs to be offered. Questioners in the past were content to listen to accounts of resources allocated. This has changed. Today the questions focus on results obtained for resources used. The questions are pointed, insistent and abrasive. The public school system is being held accountable for results. Accountability is the coming sin qua non for education in the 1970's. How to engineer accountability for results into public education is the central problem for the education profession.

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The word "accountability" like the word "responsibility" has a solid ring. The word suggests strength, order and a simple resolution to complex and baffling situations. The term is common in classical and contemporary management theory but is new to education. It would be interesting to speculate about the reasons for the startling recent spread of the demand for linking dollars spent for education, to results achieved in students. But this would not be appropriate here. It seems reasonable to state, however, that among the principal factors responsible will be found increased and accelerating costs, poor academic performance of minority children and inconclusive results of federal compensatory education projects (totalling, since 1965, in the billions of dollars).

To guard against abuse of a concept which has been valuable in the non-public sector, as well as to enhance a concept with great potential to make schools systems more responsive to client needs and demands, the definition of accountability adopted here will be simple and the examples of its use highly specific.

Accountability is the product of a process. At its most basic level, it means that an agent, public or private, entering into a contractual agreement to perform a service, will be held answerable for performing according to agreed upon terms, within an established time period and with a stipulated use of resources and performance standards. This definition of accountability requires that the parties to the contract keep clear and complete records and that this information be available for outside review. It also suggests penalties and rewards; accountability without redress or incentive is mere rhetoric.

Performance contracting is the process for which accountability is the product. The idea of contracting is older than free enterprise. Its appeal to both liberals and conservatives revolves around its attention to two things that leaders agree are desperately needed in education - quality assurance and knowledge of results.

At its most primitive level the process works like this: A public authority grants money to a local educational agency to contract with private enterprise to achieve specific goals within specific periods for specific costs. The money is targeted at pressing needs which are not being adequately met, such as: drop-out prevention among disadvantaged groups, bringing the under-privileged and undereducated up to competitive educational levels, helping the students whose mother tongue is not English perform as well in regular school subjects using their "native" language as those whose mother tongue is English, providing vocational, adult and remedial schooling, etcetera.

Seen from this vantage point accountability appears to be merely a passionate embrace by education of a private enterprise methodology for getting things done. A methodology, incidentially, already in use by school systems for years. Any superintendent of schools or business agent for example, can quickly show that performance contracts have long been a critical element in school operation and maintenance. The use of performance contracts to achieve accountability is not new to education. It is the extension of this idea into the realm of learning through a particular process called in this paper educational engineering, which represents what some in Congress are calling the "coming revolution in American education."

Since World War II several fields have been developed to enable managers of very complex enterprises to operate efficiently and effectively. These emerging fields of knowledge and practice are commonly known as: systems analysis, management by objectives, contract engineering (including bids, warranties, penalties and incentives), logistics, quality assurance, value engineering and human factors engineering, to name a few of the more important. If to these are added instructional technology and modern educational management theory a new and valuable interdisciplinary field emerges. This body of knowledge, skill and procedure can be called educational engineering. It is the insights from educational engineering that make possible performance

contracting to achieve accountability for results in education.

The question might well be asked, Why the term engineering to couple with education? Why more apparent dehumanization? It is not appropriate here to treat this question at great length. But it may be helpful to note that engineering has traditionally been a problem-solving activity, a profession dedicated to bringing the ideas and resources of technology to the resolution of real world difficulties and opportunities. While it is true that the teaching/learning environment differs from the world of business and industry, some rationalization of the two sub-cultures may be beneficial. A major objective of educational engineering may very well be to arm educational practitioners with both the technological competence of essential engineering generalizations, strategies and tools, and the professional practice of a successful instructor or educational manager. From this point of view educational engineering can be a symbiotic art - a marriage of humanism and technology. It is this possible symbiosis that makes performance contracting for learning accomplishment feasible. The concept of accountability may appear more sharply at this point by illustrating the application of one educational engineering process to achieve results in the basic academic skills.

This accountability process can be engineered as follows:

(1) The local educational agency employs a management support group whose members have competency to assist them in political, social, economic, managerial and educational matters. The relationship between the management support group and the local school leadership group resembles that of long-term consultants on a retainer account.

(2) The management support group works with staff, community (or other groups as required by a particular local situation) to produce a Request for Proposal (RFP) which is a set of specifications indicating as clearly

as possible, the service to be performed, the approximate amount of money to be invested, the constraints to be observed, the standards acceptable and related matters. The RFP is the local education agency's blueprint for action to meet pressing priorities.

(3) The next stage of the educational engineering process occurs when the RFP is set out to bid. The pre-bidding conference becomes the forum for educational exchange. Here a rich and varied communication through competition occurs between elements of the private and public sector. The bidding process is flexible to the extent that allowance is made by local education agency officials for new insights and better elements to be incorporated into a revised RFP.

(4) Following the bidding conference a revised RFP is issued and actual bids are entertained. The management support group assists the Local Education Agency in operating the conference and reviewing the bids. The local board "hears" the top bids in a manner similar to the process used in the employment of an architect.

(5) The local school board selects what it considers to be the best bid and enters into negotiation for a performance contract with the successful bidder. The management support group assists at this stage.

(6) Concurrently with the signing of the performance contract an independent educational accomplishment audit team is employed by the local education agency both to monitor execution of the performance contract and to provide feed-back to the LEA to certify results for purposes of payment.

The "physiology" of an educational engineering process has been described. Its "anatomy" may now be useful.

The Performance Contract is the managerial tool to assure the achievement of results, while encouraging responsible innovation. The approach is simple in concept although complex in actualization. With technical assistance, the learning problem is analyzed, and a delineation of achievement outcomes to be expected is specified. A request for proposals (RFP) is developed and sent by the Local Education Agency (LEA) to potential contractors who have demonstrated competent and creative activity in the specific and related fields. The RFP does not prescribe how the job must be done but does establish the performance, financial, administrative, and legal parameters of the operation. The RFP requires that the bidder guarantee specific results for specific costs. The confidence that the bidder has in his approach is reflected in the level of the guarantee, the social practicability, the time, and the costs indicated in the bid he presents.

The program to be bid is described in the contract including the specified number of students. Incentives are provided for the contractor to bring each child up to specified levels of performance, at least cost. Provision is made in the performance contract to develop a program for which the contractor will guarantee results.

After the demonstration period is completed and all relevant costs, procedures, achievements, and performance data have been validated, the contract requires of the contractor that he will guarantee an equivalent level of effective, fiscally responsible program and then, on a "turnkey" basis, the LEA incorporates the instructional program into the school after it has been proven feasible. Thus performance contracting is a capability-creating-resource for public education!

The Management Support Group (MSG) is the catalytic and buffer agency which provides not only technical assistance to the school, but a communication link between those determining priorities and the school system which is developing program proposals. The group has access to new developments in the field, especially those in industrial and governmental sectors, and assists the LEA in developing the RFP to assure that conditions and constraints in the RFP do not preclude but actually encourage the opportunity for these new developments to be demonstrated. Furthermore, it plays the role of a buffer between the LEA and community groups, as well as between the LEA and potential bidders. It also provides assistance to the LEA during the proposal evaluation and operational stages on an "as-needed" basis.

As operational results during the initial stages are determined, the group provides program planning assistance to the LEA so that the instructional programs are effectively and efficiently "turnkeyed" into the school. In this way, the school can achieve the potential benefits which will have been demonstrated. Too often school systems either adopt programs not proven or acquire techniques proven in pilot programs only. Later they may discover that the results in terms of costs and performance increases, erode over time. The MSG can provide critical technical assistance to the school officials during the adoption or "turnkey" process, ranging from projecting administrative costs required within the system to the implementation of performance budgeting techniques which will insure continuing quality assurance.

The Independent Education Accomplishment Audit is a managerial tool to assist quality control of the program. By reporting on results, this procedure encourages responsibility, creating a need for clearly stated performance objectives and an accounting for the costs incurred in achieving results. Just as the performance contract allows the school to monitor the contractor, the

IEAA is designed to assure the lay board and the community they represent that the school leaders and the contractors are doing their work. The independent accomplishment audit, first introduced through ESEA Title VIII by the U. S. office of Education is the first practical recognition that education is an important investment in human capital. Just as fiscal audits adopted universally in public education virtually from the beginning of the modern school period certified that public school resources and expenditures were in balance, the IEAA certifies that investments in human beings have been successful according to stated goals and demonstrated accomplishment.

The patterns of funding the educational engineering process are critical for the flow of Federal, State, and local funds must encourage the creation and responsible control of the process components. Budgeting must be based on clearly defined criteria for "go" or "no go" decisions to be made at the end of each discrete stage. Three-stage funding as a facilitating device consists of resources and the timely freeing of previously "ear-marked" funds for other new starts or operational programs.

The Texarkana Model

The August 13, 1969 Congressional Record included remarks by Congressman Roman C. Pucinski, Chairman of the House Subcommittee on General Education, about an educational experiment launched in Texarkana, U.S.A., described in an article by Jonathan Spivak, of the Wall Street Journal. Under the heading, "The Coming Revolution in American Education", the Congressman states, "The unique aspect of the Texarkana experiment is 'guaranteed performance'." The contractor must promise to bring educationally deficient Texarkana students up to normal grades for their age levels at a given cost and in a given time--or else pay a money penalty.

The Texarkana Dropout Prevention Program under ESEA Title VIII, was the first to use performance contracting with private enterprise in instruction. A description of this project and some generalizations about its possible implications can illustrate the use of performance contracts to achieve accountability in education with components other than or including private enterprise.

A Description of the Project

1. A local education agency, the Texarkana, Arkansas School District, applied to the U.S. Office of Education for funds to develop a plan and then to conduct a dropout prevention program under Title VIII of the Elementary and Secondary Education Act.
2. The school district proposed to translate its compensatory training objectives, i.e. reading, arithmetic and study skills, for disadvantaged students in three junior and one senior high school into performance criteria for competitive bid by private contractors.
3. The school district employed a "catalytic agent", a management support group, to help them translate their objectives into operational performance specifications to develop the Request for Proposal (RFP), on which the bidding took place. The support group also supplied such additional services as oversight of the bidding process, development of the actual performance contract with the successful bidder, communication with school staff and community, and other related activities.
4. The essential elements of the program were these:
   a. Students who were two or more grade levels below standard in basic skills, and whose family income was $2,000 per year or less, were to receive a training program for up to three hours per day. The students were to remain in the normal school program to receive other school benefits, such as athletics, skill training, certain academic courses, etc.

b. The contractor agreed to hire and train school personnel so that the school system could assimilate a successful program on a "turnkey" basis and operate those successful programs after the demonstration phase was terminated.

c. The contractor agreed to be paid on the basis of how efficiently and effectively the student learns, e.g. a guarantee of a grade level increase in each subject within a specified time period for a given fee. The school system imposed a penalty on the contractor for each student who did not achieve specified performance levels within specified hours of instruction.

d. Six months after the termination of the project, school officials have the right to reassess student performance. If it is less than the specified levels, a penalty may be assessed.

e. The school system, not the contractor, selects the students.

f. The training program of the successful bidder had to be cost effective and not labor intensive, with low operating cost characteristics during the initial stage as well as when it is incorporated into the school on a turnkey basis.

The assumption behind the Texarkana program is that a private contractor will have greater freedom to innovate and thus may be more successful in motivating students than the regular school system has been. A direct instructional service and a self-renewal function are the dual objectives of this project, as well as other projects utilizing performance contracting.

The heart of performance contracting in Texarkana is the request for proposals (RFP), which was the product of the initial program development and planning. A description of the various planning tasks that lead to, and elements of, the RFP are outlined below.

Program Planning and Development: The Prerequisite

1. Identification of educational needs of the school system
   a. Present deficiencies
   b. Future projections
2. Selection of students for the demonstration phase
3. Determination of student profiles
   a. Educational deficiency
   b. Socio-economic and racial composition
   c. Attitudinal and motivational components
4. Methods of data analysis for:
   a. Determination of intra-system differences
      (1) Educational resources
      (2) Student variables
      (3) Demographic variables
      (4) Political variables
   b. Capacity for system reform and renewal
      (1) Indices of community participation
      (2) Effect of program on vested interests
      (3) Determination of target area
5. Sources of funding
   a. Governments at all levels
   b. Non-profit institutions

Elements of the RFP: The Directive to Bidders

1. Statement of goals based on needs or educational deficiencies.
2. Performance specifications and expected outcome levels of proficiency in terms of behavioral change.
3. Criteria for increasing achievement.

4. Testing methods to be used.
5. Determination of stipulations and considerations, e.g.
   a. Degree of labor intensivity in the instructional program
   b. Sources and levels of personnel (school and community) to be used by the contractor
   c. Software uses
   d. Hardware: purchase or lease arrangements, maintenance and up-dating agreements
6. Method of cost reimbursement desired by the LEA.
7. Special conditions.
   a. Copyright
   b. Royalty
   c. Acts of nature
   d. Information release
   e. Insurance and performance bonds
8. List of qualified bidders.
   a. Announcement of pre-bidders' conference.
      (1) Timing
      (2) procedures
   b. Description of proposed evaluation program and criteria to be used by LEA.
9. Procedures for communication with firms.

There are wider implications of Engineering Accountability into Public Education. These are now described.

Advantages of Performance Contracting

The advantages of performance contracting are inherent in the nature of the serious problems that confront education today.

First, it facilitates the targeting and evaluation of educational pro-

grams. Many good instructional programs have not been given the opportunity to demonstrate their potential due to the lack of an effective delivery system at the school level. The recent critical evaluation of Title I of ESEA notes not this operational inadequacy. The performance contract approach, which utilizes a separately managed and operated center with separate accounting procedures, fosters the objective evaluation of educational results and also the managerial processes by which these results were achieved.

Second, performance contracting for instructional services could introduce greater resources and variability into the public school sector. Now, new programs are being offered to the public outside the school system: the process of fragmentation and competition has begun. Several large corporations are establishing franchise learning centers across this country. One company, for example, has at least forty centers operational in the major cities of this country; ten others are establishing centers in other cities. Performance-type contracts to improve student achievement in compensatory education are usually enacted between the parents and the franchisee. The dollars which they pay for the schools' operations. As these franchised centers expand, it is conceivable that parents will begin to refuse to pay property taxes through continuing to defeat tax and bond issues. The performance contract approach, on the other hand, would allow the school system to utilize the services and products of a particular firm or firms so that the public schools can be renewed through a "turnkey" process. Performance contracting can be looked upon as a means to foster and catalyze institutional reform within a school system, allowing school systems to continue operations and to become competitive with private schools and franchised learning centers.

Third, the performance contract approach allows a school system to experiment in a responsible manner with low costs and low political and social risks. Both school officials and critics have expressed the need to determine the relative cost effectiveness of various instructional methods

in contractor-operated centers, as well as upon incorporation into the particular schools. The performance contract approach not only allows for determination of these costs and benefits but also provides the bases for projecting initial adoption costs as well as operating cost when the system is implemented into the schools. In this sense, the approach allows lay board members to make rational choices when choosing new credible techniques for extension into standard classroom practice.

Fourth, the new "Bill of Rights in Education", giving the right of every child to read at his grade level, will undoubtedly place great burdens upon the schools' resources. If the Nation's schools are to make this principle a reality, they might want to consider using performance contracting for the development and validation of new reading programs. Upon successful demonstration, the school can then adopt the program or portions thereof. The success of these programs, that is, the child's ability to read, will in large measure depend upon the ability of the school to skillfully design and execute performance contracts and then effectively incorporate the project into its normal operation.

Fifth, according to the most recent decision rendered by the Supreme Court, school systems across this country will be required to develop effective desegregation plans which will provide not only equal opportunities, but also equity of educational results. One of the major fears of the white community (rightly or wrongly) is that "black" or "brown" children, upon integration, will hold back the progress of their children. Through the use of the performance contract approach, many of the previously segregated children will have their academic deficiencies, if any, removed on a guaranteed achievement basis while they are attending the newly-integrated schools. From this point of view, performance contracting would allow communities to desegregate in a nondisruptive, educationally effective, and politically palatable manner.

Finally, the approach creates dynamic tension and responsible institutional change within the public school system through competition. Leaders will now have alternatives to the traditional instructional methods when negotiating salary increases; performance contracting and its variant, performance budgeting, permits the authorities to couple part of a salary increase on increases in effectiveness. As the Dallas Morning News has stated: "Taxpayers can now tie results to tax dollars expended." Boards of education can establish policy and choose among alternative instructional programs.

Probable Trends In Performance Contracting

Following the information about Texarkana, the response by public school systems to performance contracting has been great, and a sense of immediacy has been created. Well over 250 school systems have inquired to U.S.O.E. about the concept of performance contracting and the procedures for its use. Some of the major cities have submitted proposals to U.S.O.E. while other cities, both large and small, are in the process of doing so. Numerous Congressional inquiries have been made. The Representatives and Senators who are familiar with the concept are strongly in favor of performance contracting. At the state level, at least three States are drafting legislation to permit performance contracting at the elementary and secondary levels, as well as the junior and community college levels. The Belmont Group, a consortium of states, local education agencies, and U.S.O.E., is exploring the possibility of utilizing ESEA Title I and Title III funds under the performance contract approach.

Proper guidance, in the form of descriptive material as well as guidelines for implementing performance contracting and/or performance budgeting within school systems should be made available to avoid the potential for a backfire to occur. For example, certain firms which develop tests and sell curriculum might bid on performance contracts; other firms might develop specific reading and math curricula around specific tests. Franchise learning

centers are bidding on performance contracts with schools in order to force state agencies to accredit their programs. Certain schools facing desegregation problems are considering very seriously the establishment of performance contract projects without a capability or an in-depth knowledge of the concept.

Two actions on the part of public policy officials would be helpful. First, additional operational proposals and planning grants should be funded, not only to legitimize the concept of performance contracting in education, but also to develop a "learning curve" on the "do's and don'ts" of developing RFP's for large urban schools. Because of the Texarkana project, those associated with its development have amassed a stockpile of knowledge; yet, the applicability to diverse urban school systems is limited. Second, concurrent with the development of additional planning exercises and based on the experience of Texarkana, the development of a booklet describing performance contracting and a procedures manual which could be made available to schools across the country should be undertaken. The demand for such documents will increase dramatically over the next few months.

The Management Support Group

"The Catalyst and Buffer Mechanism" first introduced in Texarkana is the concept of the management support group. The MSG is new to education. Its precedent was established in the defense-aerospace area when, in the mid-50's, the Aerospace Corporation was created to act as a buffer and technical assistance team between the Air Force and weapons systems suppliers for the Air Force. The Aerospace Corporation's major functions were to develop programs, design requests for proposals based on performance specifications, assist in evaluating proposals, and provide management services to contractors. The major functions of the management support group (MSG) in education under the concept of educational engineering would be in the following areas:

Functions provided by MSG

1. Program planning and development assistance. School systems generally lack such a management capability, or, if such is available, "day to day" operations prevent effective utilization of that resource. Moreover, an outside group provides new insights and a different perspective in analyzing educational and other problems and in developing alternative solutions. For these and other reasons, it is advantageous for the school to have an MSG develop the RFP. The MSG could assist in the following ways during program development and planning:
   a. Analyze and determine the community's educational needs and the desired levels of student performance.
   b. Conduct program definition phase studies and determine sources of funding.
   c. Develop the RFP and experimental design to be used for "turnkey" purposes as well as national dissemination.
   d. Develop and recommend "program change proposals" on a continuing basis during the initial stages.
   e. Develop means for gathering and maintaining political and community support for the program during all phases.
   f. Contact potential bidders in the education industry and R&D laboratories to insure that the latest innovative techniques are considered and are encouraged for application by the direction and flexibility allowed in the RFP.
   g. Determine the qualified bidders and send them the RFP.
2. Project management assistance. Too often, proposals are developed by outside groups who curtail relationships with the school once the contract has been awarded. The management support group has to provide extended and sustained services in the areas ranging

from establishing the project management office to the development of evaluation techniques. The project management services would be in the following areas:

a. Develop a multi-year management plan for the conduct of the demonstration and "turnkey" effort, including an administrative system for the LEA's project management office.

b. Conduct, when appropriate, pre-proposal development and bidders' conferences with all interested parties.

c. Establish a proposal evaluation procedure and assist in the evaluation by presenting strengths and weaknesses to the LEA.

d. Continually evaluate the contractor's progress and assist in contract renegotiations as required.

f. Manage pilot programs when specifically requested to do so by the LEA.

g. Analyze the administrative and managerial changes required when the techniques proven in pilot programs are integrated into the school system. This "turnkey" phase is critical to overall success and requires careful analysis and program planning and budgeting.

3. Linkages for communications and coordination. As an unofficial advocate of change and an ombudsman for the public interest, the MSG can provide an effective, disinterested, and politically palatable linkage between Federal, State, and local agencies so that priorities and program directions are coordinated. Because many firms of unknown or questionable reliability will be entering this newly-created multi-billion dollar market, the MSG is a necessary mediator and "honest broker" between the firms and the school systems. At the community level, the vested interests

of powerful groups and important decision-makers must be determined. Here, the MSG, acting as a buffer between the LEA and these interest groups, both within and outside the school system, can obtain such information in an effective and politically advantageous manner (e.g. the superintendent could point to the MSG as a scapegoat if specific ideas or recommendations are not accepted by the Board). The MSG can provide an on-call, as needed, manpower pool during planning and implementation. It can hire potential school employees in order to allow officials to see them in action. Moreover, the MSG has access to consultants around the country, and on short notice it can provide their service without having to go through cumbersome bureaucratic procedures.

In short, the politics of experimentation where private industry, local schools, and the Federal government are all involved creates the need for unofficial "advocates" and "buffer mechanisms" to protect politically all parties concerned, while insuring that the project does in fact become a reality. The success thus far in the Texarkana project, which was the first to use the MSG is noteworthy:

a. Within nine months, a radically innovative concept acceptable to three districts in two states was conceived for multi-year funding and was in operation ten days ahead of schedule with preliminary results indicating success beyond normal expectations.

b. A new venture was initiated with private industry, despite some experts' prediction that no firms would bid. To the contrary, 42 firms attended the bidders'

conference and 10 firms submitted proposals.

c. A cost-effective program (e.g. "a dollar an hour guaranteed education") run by an outside private firm, yet accepted by all elements within the school system, promising early and effective adoption was accepted.

d. A project is operating which has the support of responsible citizens regardless of their political persuasion and the interest of media ranging from the Washington Post to the Dallas Morning News.

Probable Trends in the Use of the Management Support Group

The concept of the management support group was made legitimate by the Title VII and Title VIII ESEA grant guidelines. Only a few firms have the capability to perform this function on their own although a larger number of individuals do exist and could form a fertile cadre to advise and train others. The concept of catalytic buffers was included in the enabling legislation for ESEA Title III, presented to Congress in 1965-66; however, it was deleted in final legislation. Many people attribute the failures of Title III projects to the lack of a mechanism that would have provided the necessary political and technical skills to insure effective planning implementation and eventual adoption by LEA's of successful projects. A strategy for developing this capability within school systems across the country would reap enormous cost savings, reduce time wastage, and effect early adoption of new programs.

Independent Educational Accomplishment Audit Group: "Closing the Loop"

Similar to the earlier demand for fiscal audits, the public is now demanding an accounting of student accomplishment. Just as the independent fiscal audit of schools has eliminated most fiscal illegality and has forced fiscal management changes, the IEAA group can also be used to create the demand for the

necessary instructional reforms. The concern for results in education among the electorate is a recent development, but it is gaining momentum. "Equal opportunity" in education no longer mollifies the majority; "equity of results" is demanded. This is especially true of the educational benefits conventionally called the "basic skills". Even though Title I language reflects a traditional concern over inputs such as equipment, teachers, space and books, the subsequent questions raised by the Congress have moved beyond how the money was spent to questions concerned with whether the students have learned, had secured jobs, or are falling behind. This is the political soil from which the independent accomplishment audit has grown.

The Auditing Process

The Independent Education Accomplishment Audit is a process similar to that used in a fiscal audit. The emphasis, however, is on student performance as a result of financial outlays. The Independent Educational Accomplishment Audit (IEAA) relys upon outside independent judgment and has six essential parts; the pre-audit; the translation of local goals into demonstrable data; the adoption or creation of instrumentation and methodology; the establishment of a review calendar; the assessment process; and the public report.

1. The Pre-Audit:

   The auditor selected by the school system starts the IEAA process by discussing with the staff, students, and community the objectives and plans of the particular program to be reviewed. This phase produces a list of local objectives and a clear description of the programs in some order of priority. In performance contracts, he reviews the project's "procedures" manual.

2. The Translation:

In concert with local people, the auditor determines a clear formulation of the evidence indicating that the objectives have been met and the methods that will be used to gather the evidence. This phase produces a set of specifications revealing what the student will be able to do as a result of the educational experience, the manner in which the evidence will be secured, and the standards which will be applied in interpreting the success of the program in bringing the students to the objectives.

3. Instrumentation:

Along with the translation, the auditor, working with the LEA, determines the audit instruments, such as tests, questionnaires, interview protocols, and unobtrusive measures which will be used to gather the evidence. The product of this activity is a set of defined techniques and procedures for data gathering.

4. Review Calendar:

An agreement is secured in writing which indicates the nature of the reviews, where they will be held, how long they will take, when they will occur, and who is responsible for arrangements, the nature of the arrangements, and other logistical considerations. It is essential that the calendar be determined in advance and that all concerned by a party to the agreement and have the authority to honor the agreement.

5. The Audit Process:

This is a responsibility of the auditor. In this phase, the auditor carries out the procedures agreed upon in the pre-audit, translation, and instrumentation phase as codified in the review calendar.

6. The Public Report:

The auditor files a report at a public meeting, giving commendations and recommendations as they relate to the local objectives. The report is designed to indicate in specific terms both accomplishments and ways in which the program may be made more effective.

Advantages of the IEAA

The IEAA is a new technique designed to put local school personnel and the clients they serve in a problem-solving mode of thinking. It is built around a financial core since money is a common denominator for the heterogeneous elements of inputs, but its focus is upon student attitudes, skills, and knowledge. Out of the IEAA, a whole range of useful by-products are anticipated. First, it may lead to a knowledge of optimum relationships between outputs and inputs, e.g. the "critical mass" in funding different types of compensatory programs. Second, it can form a basis for the discovery and improvement of good practice in education. Third, the IEAA creates the need for performance-type contracting and/or budgeting in the basic academic and vocational skill areas. Finally, it can renew credibility in the educational process by effecting more responsiveness to the needs to children and supplying the understanding necessary to produce change. The power of the electorate over public education must be politically, not administratively, derived. If techniques can be developed to convince the community of the benefits of responsible leadership through accountability for results, those interested in furthering education can better support the educational enterprise.

Probable Trends in the Use of the IEAA

The IEAA concept is now a reality. Over 20 groups or individual auditors across the country are receiving special training and guidance at U.S.O.E.

sponsored audit institutes. Most of these groups will serve as auditors in Title VII and VIII of ESEA. However, if Title I and Title III funds were made available in such a way to allow LEA's to use performance contracting, and a large number (e.g. 500) decided to do so, the existing resources for training and conducting professional educational audits would probably be inadequate. A superficial survey of existing U.S.O.E. resources (e.g. Title III service centers, the regional laboratories, and resources of private firms) indicates that the auditing capability is limited. A full scale inquiry should be undertaken. At the same time, university-based graduate studies on educational engineering with heavy emphasis on educational audits should be instituted within a select number of qualified universities. Such curricula must be developed in light of the political and social milieu in which the audit must take place and be conducted by qualified individuals who understand the concept from a theoretical as well as operational point of view.

Developmental Capital: Financing Innovation in Education

For too long a period of time, the public schools of this Nation have been funded and operated in such a manner that educators and administrators have been discouraged from providing efficient and effective instructional services. Federal funding, despite a plethora of regulations and guidelines, proposals and reports, actually supports, and, in some cases, encourages, inefficiencies and inequities in public schools. At all levels of financial support, money has been directed toward specific problems as they emerge, rather than being systematically used to reform the institution. Hence, taxpayers and legislators find themselves in the tragic position of throwing "good money after bad", for, while the price they pay has never been greater, the problems emerging from public education have never been more numerous.

The hard lesson to be learned from the past five years of major Federal funding of educational programs is that the way in which the money is delivered

is as important as the amount. If the cycle of more money and ever greater problems is to be broken, political authorities should realize that discretionary money must be used for not only successful programs, but also for system renewal. Writing in the Fall, 1969, issue of The Public Interest, Daniel Moynihan admonished that: "The Federal government must develop and put into practice far more effective incentive systems than now exist whereby state and local governments, and private interests, too, can be led to achieve the goals of federal programs." Properly conceptualized, therefore, Federal aid to education should be viewed as capital, which, when made available in a predictable and systematic manner, will provide the energy for educational engineering. The basic purpose of developmental capital is to provide a financial resource to stimulate and sustain re-examination and modernization of the educational system. The investment of "risk" capital can generate new educational traditions by applying the developmental aspects of business success to the public sector.

Effecting necessary change requires discretionary funds which are not now available to local school leaders. In the absence of an infusion of new monies for development, dissemination, and installation of new products and practices, the gap between the demand for higher quality education and performance is likely to widen further.

With developmental capital set-asides, renewal can be directed through Federal, State, and local channels, and activity can be aimed at improving management leadership capabilities. All three sectors of Government can work in conjunction with each other to attract the best minds and resources to the renewal of the system.

Funds at the Federal level can be applied to "high risk" investments, for this is the only governmental level that can commit the amount of dollars and manpower to accomplish research and development. Another major considera-

tion of the Federal level of government would be the identification of successful practices around the nation. Renewal capital can be used to determine the most pressing management and operational needs of school administrators and to identify successful school management and classroom practices. A nationwide search needs to be organized to identify educational approaches that are effective as well as schools which have resolved major administrative and instructional problems.

The Process of Using Developmental Capital

Developmental capital, available in a three-stage process, is the means of responsibly fostering change and renewal. If educational engineering is ultimately to have any impact, it must receive its "energy" from a pattern of funding.

Three-stage funding of projects is one way to maximize the effectiveness of this developmental capital. In this process, the first step would be to provide small amounts of money to the agency so that a management support group or technical assistance can be used in the planning process. These planning grants accomplish two purposes. First, schools can afford to attract the resources necessary for good planning. Second, it equalizes opportunities among the schools that are competing for project approval. No longer will the wealthy schools have an unfair advantage over the poor schools in the competition for developmental dollars, as happened in the Title III and Title I ESEA application process.

Program operation and management funds, the second step, are then made available to schools that have demonstrated the best use of the planning grants. There would be two major criteria for awarding this money. First, the schools should demonstrate skill in the assessment of system needs, and imagination in relating expected program outcomes to the identified needs.

Second, the request for proposal should be a clear and comprehensive document. The heart of the RFP is in the clear statement of outcomes, not only for the program, but also for the renewal of the school system. The art is in setting parameters in such a way that the bidder is able to make his best response to this statement of need. The third stage of the funding would automatically follow the money for program operation and would be for the independent educational audit. There must be no chance for the auditor to be involved in either program planning or operation; rather, the accomplishment audit group must be independent.

Grants management, funded by a risk capital account at the local level, must also follow this three-phase process if sustained innovation is to be accomplished. Risk capital can be used by an administrator to build an in-house innovative capability or at least utilize that which exists on the outside under contract as a management support function. If the administrator could make this risk capital available in three stages, talented and ambitious teachers would be encouraged and would have the resources to bid on requests for proposals. This process could take on a myriad of forms. Two examples illustrate the power of the risk capital concept.

In California, the superintendent of a large school district was allowed to manage approximately one-percent of the operating budget of the school district, some $50,000, as an investmemt account. Board policy also permitted the set-aside of funds raised from Federal, State, and private sources around this one percent set-aside. For the period 1965-68, with the assistance of an elected teachers' group called the Academy of Instruction and the cooperation of students, administrators, community members, and the Board of Education, this set-aside account was used to invest in competitive teacher/student/administrator proposals tied to demonstrable objectives.

Significant changes in student accomplishment, teacher effectiveness, and administrator initiative have resulted from this grants management strategy. Such things as a Know and Care Educational Resources Center, a Zero Reject Reading Laboratory, a Physical Fitness Testing Center, a Humanities Center, and the incorporation of vocational programs into the fundamental reorganization of an entire school are only a few of the results. The one-percent set-aside was used as a "rudder" to cause change affecting the entire budget.

Another developmental effort undertaken with funds from this investment account brought about the production of a film designed to familiarize students with the dangers of LSD and other drugs. The film proved to be so successful and popular that sales to other school systems earned the producing district a profit of about $100,000, (called non-profit income) which was added to the investment account for further activities.

In Dallas, Texas, the Superintendent of Schools has obtained one percent of the local school revenue for a developmental account called "Pennies for Innovation." Teachers submit innovative proposals which are then judged and approved by a board of master teachers. With 75 to 90% of local budgets tied to salaries and with a salary schedule that is so rigid that the weakest teachers are often the highest paid, this simple strategy shows great promise for stimulating the creativity and flexibility of many teachers.

Probable Trends in the Use of Developmental Capital

The need for new patterns of funding in education is beginning to be recognized by high Administration officials. Congress has already taken action to a limited extent in the provisions of ESEA Title VII and Title VIII by requiring planning grants and educational accomplishment audits. The expansion of this new pattern of funding to ESEA, Title I and III, should be given a high priority if these programs are to achieve their original objectives.

There are indications that the Belmont Group is considering seriously such recommendations.

While these new directions at the Federal level support the concept of educational engineering for accountability, action is also required, and is already occuring in some instances, at the State and local levels along the lines previously mentioned. The trend for States to assume an increasingly greater role in educational financing will provide an opportunity for a more cohesive and systematic approach to school funding. For example, in Michigan, which has recently assumed the total responsibility for financing education, this three-stage funding process would prove to be just as important as the proposed equitable redistribution of education resources.

At the local level, a developmental capital approach to grants management would foster a responsible strategy of educational innovation. LEA's are caught in a fiscal crunch; and since most school budgets can be only slightly altered, any sudden increase in discretionary money would probably have an insignificant impact upon the system, because the money would be treated as "add-ons" under the current lump-sum dispersal of program money. If today's promising innovations, such as individualized instruction, differentiated staffing, and "vouchers for education" which are being proposed or implemented by certain schools are to have a marked impact, money must be programmed so that these reforms are comprehensively planned and implemented, objectively evaluated, and then effectively "turnkeyed" back into the schools when appropriate.

This kind of an approach will lead ultimately to modernizing reforms such as program budgeting and performance evaluations. School decision makers have not enjoyed a freedom of choosing among alternatives. If a Developmental Capital approach to program funding were adopted, responsible innovation could begin to produce relatively unambiguous results. As alternatives are generated through developmental capital and performance contracting,

the way will have been prepared for the installation of PPBS and other necessary reforms.

Without fully realizing it, people carry an "Aristotelian legacy" in the way they think about many problems and crises in education. In surprising ways they still believe in entelechies those in-dwelling spirits who lead people to "good" or "bad" actions. Thus it is extremely common at all education levels to hear teachers talk about "good" students and "bad" students and to explain failure and success on this basis. Recently there have been heated discussions about the motivations of "establishments" and many profess to see members of these establishments as not being "good" people.

There are alternative ways to view the behavior of school people. One particularly viable alternative to "demonology" is the analysis of burden/capability of the system.

Here it would be important to view the schools from the standpoint of their responsibilities or burdens either self-imposed or thrust upon them, their perception and response to these burdens and their ability to meet the burdens, i.e. their capability. In this kind of review, the effectiveness or quality of the school system is a ratio of burdens and capability. If burdens increase while capability remains constand, effectiveness will decline; conversely a rise in burden coupled with a greater rise in capability will yield increased effectiveness.

The educational engineering process described is consciously directed toward increasing the capability of the schools. Thus it is that a "turnkey" arrangement is called for in every RFP and is incorporated into every performance contract. With costs underwritten by the local education agency, provision for adaption, adoption and installation of a successfully completed performance contract is assisted by using school personnel as consultants and as trainees in the process successfully bid by the contractor. The turnkey, or turnaround feature is potentially a Bodkin's Point to pierce the

armor of resistance to change and innovation so permanent a feature of school life. The objective of the standard turnkey feature of all performance contracts let to private enterprise is simple and clear: to arm the school with the know-how of better instructional practice and to see that validated practice is adopted.

In the main, educational organizations are influenced by three basic factors: the cultural or belief system which sets policy in the form of goals and creates the mind-set by which activities are accepted, the technology which determines the means available for reaching these goals and the social structure of the organization in which the technology is embedded. An educational engineering process to produce accountability for results in the public schools attends constructively to these three basic factors.